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EXAMINER	
LE, MIRANDA	

ART UNIT	PAPER NUMBER
2159	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/706,937	HUBER ET AL.	
	Examiner	Art Unit	
	MIRANDA LE	2159	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is responsive to Amendment, filed 04/15/2009.

Claims 1-6, 8-15 are pending in this application. Claims 1, 2, 14 have been amended, or cancelled. This action is made Final.

The rejection of claims 1 by 35 U.S.C. §101 has been withdrawn in view of the amendment.

The objection to the specification (drawings, claim objection) of the invention has been withdrawn in view of the amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order

for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over NA (US Patent No. 6,125,367), in view of Soults et al. (US Patent No. 4,873,513), and further in view of Moroto et al. (US Patent No. 5,121,326).

As per claim 1, NA teaches a computer-implemented method of operating a navigation system, said method comprising:

using a geographic database stored on a computer readable storage medium containing data that represents geographic features *(i.e. the present invention manages the map data involving the maps of various scales via the formalized index structure and the hierarchical structure, Abstract)*, wherein said database includes an indexing structure with dimensions *(i.e. To solve the above problems, it is an object of the present invention to provide a map data base management method for efficiently managing map data of various scales on an area basis and on a country basis, by searching map data of a corresponding region using a map data base in which indices are designated in the form of a hierarchical structure based on a geographical characteristic of each region, Summary),*

wherein a first dimension of said three dimensions includes latitude boundary information *(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"),*

(33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35),

wherein a second dimension of said three dimensions includes longitude boundary information*(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"), (33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35);*

wherein said latitude boundary information and said longitude boundary information define a bounded area represented by a maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude *(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"), (33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35),*

wherein in a third dimension of said three dimensions includes rank information,

wherein each of said geographic features have an associated rank information *(i.e. (a)*

constructing a map index file so that with respect to regions partitioning each of maps drawn on a plurality of scales involved with the same geographical area, an individual region index is designated to a region, in the manner that a region index for designating each region constituting a relatively large-scale map determines region indices for designating a plurality of regions constituting a map of a scale just below the relatively large-scale, Summary), wherein said rank information has at least two levels, a first level of rank is associated with the geographic features of greater importance and a second level of rank is associated with geographic features of lesser importance *(i.e. (b) constructing a map data file so that among regions designated by region indices in step (a), individual map data is designated by a scale and a region index, in the manner that each region having land in a corresponding scale map has corresponding map data and each region having no land in a corresponding scale map has no map data, Summary)*,

searching said geographic database stored in the computer readable storage medium for data representing a geographic feature using a latitude values *(i.e. (d) reading map data corresponding to the desired scale and the region index determined in the step (c) from the map data file in the step (b), and displaying the read map data, Summary)*, a longitude value and a rank value, wherein said search uses said first and second dimensions of said indexing structure to identify the bounded area in which the latitude value and longitude value falls within *(i.e. (c) determining a region index corresponding to desired longitude and latitude and scale, using the map index file in the step (a), Summary)*,

wherein said search uses said third dimension of said indexing structure to identify said level of rank corresponding to said rank value *(i.e. (b) constructing a map data file so that among regions designated by region indices in step (a), individual map data is designated by a scale and a region index, in the manner that each region having land in a corresponding scale map has corresponding map data and each region having no land in a corresponding scale map has no map data, Summary)*.

NA implicitly teaches "maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude" in Fig. 8.

NA does not explicitly state the terms "maximum, minimum."

Soults teaches this limitation in Fig. 4.

It would have been obvious to one of ordinary skill of the art having the teaching of NA and Soults at the time the invention was made to modify the system of NA to include the limitations as taught by Soults. One of ordinary skill in the art would be motivated to make this combination in order to select and display an image of a map which encompasses a desired latitude and longitude and with a field of view closest to a selected filed of view in view of Soults (col. 2, lines 45-54), as doing so would give the added benefit of providing an automated map display system capable of interrelating images of map portions on the basis of the latitude and longitude coverage associated with each map portion as taught by Soults (col. 2, lines 45-54).

NA implicitly teaches "rank" *(i.e. FIG. 6 shows that each region on the 1-to-50,000 map of FIG. 2 corresponding to the region index B3 or B4 corresponds to four regions on a 1-to-25,000 map. In FIG. 6, an index F1 means each region on a 1-to-*

50,000 map, and an index F2 means four regions of the region F1 which has been divided into the same size and having a scale of 1 to 25,000. FIG. 7 shows that each region on the 1-to-50,000 map of FIG. 2 corresponds to 100 regions on a 1-to-5,000 map. In FIG. 7, "G1" means a region corresponding to each region index B4 on the 1-to-50,000 map of FIG. 2, and "G2" means region indices corresponding to 100 regions of the region G1 which has been divided into the same size. Each region corresponding to the G2 has a 1-to-5,000 scale, col. 4, lines 17-28.

NA, Soults do not clearly state the "rank".

Moroto teaches this limitation in Fig. 2.

It would have been obvious to one of ordinary skill of the art having the teaching of NA, Soults, Moroto at the time the invention was made to modify the system of NA, Soults to include the limitations as taught by Moroto. One of ordinary skill in the art would be motivated to make this combination in order to classify roads in view of Moroto (col. 7, lines 44-65), as doing so would give the added benefit of providing a display system in a navigation apparatus in which intersection landmarks can be displayed on an intersection diagram in which the direction of travel points toward the top of the screen as taught by Moroto (col. 2, lines 33-39).

As per claim 2, NA teaches a computer-implemented index stored on a computer readable storage medium for a geographic database containing geographic data that represent geographic features, said index comprising:

a single index structure that includes two spatial dimensions and a non-spatial third dimension, wherein said two spatial dimensions define a bounded area represented by a maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude *(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"), (33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35)*,

wherein said structure is a k-d-tree index structure comprising a root node, intermediate nodes and leaf nodes *(i.e. the present invention manages the map data involving the maps of various scales via the formalized index structure and the hierarchical structure, Abstract)*,

said geographic data indexed by said structure are searchable spatially using computer-executable instructions *(i.e. (c) determining a region index corresponding to desired longitude and latitude and scale, using the map index file in the step (a), Summary)* and said two spatial dimensions of said index structure and a latitude and a longitude *(i.e. (d) reading map data corresponding to the desired scale and the region index determined in the step (c) from the map data file in the step (b), and displaying the read map data, Summary)*,

said geographic data indexed by said structure are searchable for a non-spatial property of the indexed geographic data that represent the geographic using computer-executable instructions and said third dimension of said index structure *(i.e. (a) constructing a map index file so that with respect to regions partitioning each of maps drawn on a plurality of scales involved with the same geographical area, an individual region index is designated to a region, in the manner that a region index for designating each region constituting a relatively large-scale map determines region indices for designating a plurality of regions constituting a map of a scale just below the relatively large-scale, Summary)*,

wherein said non-spatial property of the geographic data includes at least one of:

a rank associated with the geographic features represented by the geographic data *(i.e. (b) constructing a map data file so that among regions designated by region indices in step (a), individual map data is designated by a scale and a region index, in the manner that each region having land in a corresponding scale map has corresponding map data and each region having no land in a corresponding scale map has no map data, Summary)*, a granularity of said indexed geographic data, and a scale associated with said indexed geographic data *(i.e. (a) constructing a map index file so that with respect to regions partitioning each of maps drawn on a plurality of scales involved with the same geographical area, an individual region index is designated to a region, in the manner that a region index for designating each region constituting a relatively large-scale map determines region indices for designating a plurality of regions constituting a map of a scale just below the relatively large-scale, Summary)*.

NA implicitly teaches "maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude" as in Fig. 8.

NA does not specifically state the terms "maximum, minimum."

Soults teaches this limitation in Fig. 4.

It would have been obvious to one of ordinary skill of the art having the teaching of NA and Soults at the time the invention was made to modify the system of NA to include the limitations as taught by Soults. One of ordinary skill in the art would be motivated to make this combination in order to select and display an image of a map which encompasses a desired latitude and longitude and with a field of view closest to a selected filed of view in view of Soults (col. 2, lines 45-54), as doing so would give the added benefit of providing an automated map display system capable of interrelating images of map portions on the basis of the latitude and longitude coverage associated with each map portion as taught by Soults (col. 2, lines 45-54).

NA implicitly teaches "rank" *(i.e. FIG. 6 shows that each region on the 1-to-50,000 map of FIG. 2 corresponding to the region index B3 or B4 corresponds to four regions on a 1-to-25,000 map. In FIG. 6, an index F1 means each region on a 1-to-50,000 map, and an index F2 means four regions of the region F1 which has been divided into the same size and having a scale of 1 to 25,000. FIG. 7 shows that each region on the 1-to-50,000 map of FIG. 2 corresponds to 100 regions on a 1-to-5,000 map. In FIG. 7, "G1" means a region corresponding to each region index B4 on the 1-to-50,000 map of FIG. 2, and "G2" means region indices corresponding to 100 regions of the region G1 which has been divided into the same size. Each region corresponding to*

the G2 has a 1-to-5,000 scale, col. 4, lines 17-28.

NA, Soults do not clearly state the "rank".

Moroto teaches this limitation in Fig. 2.

It would have been obvious to one of ordinary skill of the art having the teaching of NA, Soults, Moroto at the time the invention was made to modify the system of NA, Soults to include the limitations as taught by Moroto. One of ordinary skill in the art would be motivated to make this combination in order to classify roads in view of Moroto (col. 7, lines 44-65), as doing so would give the added benefit of providing a display system in a navigation apparatus in which intersection landmarks can be displayed on an intersection diagram in which the direction of travel points toward the top of the screen as taught by Moroto (col. 2, lines 33-39).

As per claim 14, NA teaches a computer-implemented index on a computer readable medium comprising:

a single k-d tree indexing structure that includes a first dimension, a second dimension and third dimension *(i.e. the present invention manages the map data involving the maps of various scales via the formalized index structure and the hierarchical structure, Abstract)*,

wherein the k-d tree indexing structure that includes a first dimension, a second dimension *(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and*

longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"), (33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35) and a third dimension *(i.e. (a) constructing a map index file so that with respect to regions partitioning each of maps drawn on a plurality of scales involved with the same geographical area, an individual region index is designated to a region, in the manner that a region index for designating each region constituting a relatively large-scale map determines region indices for designating a plurality of regions constituting a map of a scale just below the relatively large-scale, Summary)*,

wherein the k-d tree indexing structure is used to index parcels of geographic data, wherein said parcels are collections of said geographic data that represent geographic features encompassed within a bounded area *(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"), (33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35)*;

wherein said first dimension includes latitude boundary information of said bounded area, wherein said second dimension includes longitude boundary information of said bounded area, wherein said latitude boundary information and said longitude

boundary information define said bounded area represented by a maximum latitude, a maximum longitude *(i.e. FIG. 8 depicts a Cheju Island area having a scale of 1 to 50,000 shown in FIG. 2. In FIG. 8, darked circles H1 are center positions of six regions H2 divided from the 1-to-50,000 map of the Cheju Island area, respectively. The latitude and longitude of each center position H1 is (33.degree. 30', 126.degree. 22' 30"), (33.degree. 30', 126.degree. 37' 30"), (33.degree. 30', 126.degree. 52' 30") (33.degree. 15', 126.degree. 15'), (3 3.degree. 15', 126.degree. 30'), and (33.degree. 15', 126.degree. 45'), col. 4, lines 29-35)*, a minimum latitude and minimum longitude, said parcels of geographic data indexed by said structure are searchable using computer-executable instructions and a latitude value *(i.e. (c) determining a region index corresponding to desired longitude and latitude and scale, using the map index file in the step (a), Summary)*, a longitude value and said first and second dimension of said indexing structure *(i.e. (d) reading map data corresponding to the desired scale and the region index determined in the step (c) from the map data file in the step (b), and displaying the read map data, Summary)*,

wherein said third dimension includes rank information that has at least two levels *(i.e. (b) constructing a map data file so that among regions designated by region indices in step (a), individual map data is designated by a scale and a region index, in the manner that each region having land in a corresponding scale map has corresponding map data and each region having no land in a corresponding scale map has no map data, Summary)*, wherein a first level of rank is associated with geographic features of greater importance and a second level of rank is associated with a second

set of parcels comprising collections of the geographic features lesser importance *(i.e. (a) constructing a map index file so that with respect to regions partitioning each of maps drawn on a plurality of scales involved with the same geographical area, an individual region index is designated to a region, in the manner that a region index for designating each region constituting a relatively large-scale map determines region indices for designating a plurality of regions constituting a map of a scale just below the relatively large-scale, Summary)*, said data indexed by said indexing structure is searchable for said rank using computer-executable instruction and said third dimension of said indexing structure *(i.e. (d) reading map data corresponding to the desired scale and the region index determined in the step (c) from the map data file in the step (b), and displaying the read map data, Summary)*.

NA implicitly teaches "maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude" in Fig. 8.

NA does not explicitly state the terms "maximum, minimum."

Soults teaches this limitation in Fig. 4.

It would have been obvious to one of ordinary skill of the art having the teaching of NA and Soults at the time the invention was made to modify the system of NA to include the limitations as taught by Soults. One of ordinary skill in the art would be motivated to make this combination in order to select and display an image of a map which encompasses a desired latitude and longitude and with a field of view closest to a selected filed of view in view of Soults (col. 2, lines 45-54), as doing so would give the added benefit of providing an automated map display system capable of interrelating

images of map portions on the basis of the latitude and longitude coverage associated with each map portion as taught by Soults (col. 2, lines 45-54).

NA implicitly teaches "rank" *(i.e. FIG. 6 shows that each region on the 1-to-50,000 map of FIG. 2 corresponding to the region index B3 or B4 corresponds to four regions on a 1-to-25,000 map. In FIG. 6, an index F1 means each region on a 1-to-50,000 map, and an index F2 means four regions of the region F1 which has been divided into the same size and having a scale of 1 to 25,000. FIG. 7 shows that each region on the 1-to-50,000 map of FIG. 2 corresponds to 100 regions on a 1-to-5,000 map. In FIG. 7, "G1" means a region corresponding to each region index B4 on the 1-to-50,000 map of FIG. 2, and "G2" means region indices corresponding to 100 regions of the region G1 which has been divided into the same size. Each region corresponding to the G2 has a 1-to-5,000 scale, col. 4, lines 17-28.*

NA, Soults do not clearly state the "rank".

Moroto teaches this limitation in Fig. 2.

It would have been obvious to one of ordinary skill of the art having the teaching of NA, Soults, Moroto at the time the invention was made to modify the system of NA, Soults to include the limitations as taught by Moroto. One of ordinary skill in the art would be motivated to make this combination in order to classify roads in view of Moroto (col. 7, lines 44-65), as doing so would give the added benefit of providing a display system in a navigation apparatus in which intersection landmarks can be displayed on an intersection diagram in which the direction of travel points toward the top of the screen as taught by Moroto (col. 2, lines 33-39).

As per claims 3, 13, NA, as combined, teaches said k-d tree structure includes a root node, intermediate nodes and leaf nodes, wherein each node part of a parent-child relationship wherein each parent node includes control information from which one of at least two child nodes associated with the parent node are distinguishable based on a search key *(i.e. As described above, the map data base management method and the system therefor according to the present invention manages the map data involving the maps of various scales via the formalized index structure and the hierarchical structure. Thus, the size of the map index file can be minimized and the search of the map data can be simply performed via simple calculation. Also, a region is classified into one having land and the other having no land in each scale, which can enable constitution of the map data base with only geographically useful map data. Thus, a map data base can be efficiently constructed, col. 12, lines 24-34).*

As per claims 4, 12, NA, as combined, teaches said index is homogeneous *(i.e. FIG. 6 shows that each region on the 1-to-50,000 map of FIG. 2 corresponding to the region index B3 or B4 corresponds to four regions on a 1-to-25,000 map. In FIG. 6, an index F1 means each region on a 1-to-50,000 map, and an index F2 means four regions of the region F1 which has been divided into the same size and having a scale of 1 to 25,000. FIG. 7 shows that each region on the 1-to-50,000 map of FIG. 2 corresponds to 100 regions on a 1-to-5,000 map. In FIG. 7, "G1" means a region corresponding to each region index B4 on the 1-to-50,000 map of FIG. 2, and "G2" means region indices corresponding to 100 regions of the region G1 which has been*

divided into the same size. Each region corresponding to the G2 has a 1-to-5,000 scale, col. 4, lines 17-28).

As per claims 5, 11, NA, as combined, teaches said index is non-homogeneous *(i.e. FIG. 6 shows that each region on the 1-to-50,000 map of FIG. 2 corresponding to the region index B3 or B4 corresponds to four regions on a 1-to-25,000 map. In FIG. 6, an index F1 means each region on a 1-to-50,000 map, and an index F2 means four regions of the region F1 which has been divided into the same size and having a scale of 1 to 25,000. FIG. 7 shows that each region on the 1-to-50,000 map of FIG. 2 corresponds to 100 regions on a 1-to-5,000 map. In FIG. 7, "G1" means a region corresponding to each region index B4 on the 1-to-50,000 map of FIG. 2, and "G2" means region indices corresponding to 100 regions of the region G1 which has been divided into the same size. Each region corresponding to the G2 has a 1-to-5,000 scale, col. 4, lines 17-28).*

As per claims 6, 10, Moroto, as combined, teaches said geographic features are roads *(Fig. 40).*

As per claims 8, 9, NA, as combined, teaches said rank includes both integers and fractional values *(i.e. In case of the 1-to-200,000 map shown in FIG. 4, the vertical line D1 indicates a longitude line and the horizontal line D2 indicates a latitude line, respectively. "D3" indicates region indices with respect to regions having no map data,*

and "D4" indicates region indices with respect to regions having map data. The region indices D3 and D4 are shown in FIG. 4 so that they are discriminated with each other by thick solid lines enclosing region indices D4. In FIG. 4, reference numerals 1, 8, 18, 22, 23 and 24 are region indices D3. Each region index D3 or D4 shown in the FIG. 4 map, designates regions on a 1-to-200,000 map corresponding to four region indices involved in a 1-to-100,000 map of FIG. 3. An index D5 is a discrimination line for discriminating regions to be described in connection with the 1-to-100,000 map of FIG. 3, and an index D6 being a shading portion shows regions on a 1-to-100,000 map indicated by the region indices C3, col. 3, lines 54-67).

As per claim 15, Moroto, as combined, teaches the method of Claim 1 wherein said data that represent geographic features are organized into layers based on said rank associated with the represented features *(i.e. roads classified, col. 4, lines 44-65)*.

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James K. Trujillo, can be reached at (571) 272-3677. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/

Primary Examiner, Art Unit 2159